DEFENSE TECHCONNECT 5

INNOVATION SUMMIT & EXPO

NOVEMBER 28-30, 2023 WASHINGTON, DC

View Co-Located Events



November 28-30, 2023 Washington, DC

Transforming the resilience of critical infrastructure systems and communities across sectors

In partnership with



1:00 PM - 6:00 PM

Woodrow Wilson Lobby

Registration

TUESDAY NOVEMBER 28, 2023

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7:00 AM - 6:00 PM

Woodrow Wilson Lobby

Registration

8:00 AM - 10:00 AM

Woodrow Wilson Ballroom A

Defense TechConnect Innovation Keynotes: DOD Leadership, Resilience Week, and SBIR/STTR

US Armed Forces Color Guard, "The President's Own" US Marine Band Vocalist, U.S. Department of Defense

Jennifer Rocha, Vice President, Strategic Partnerships, TechConnect Division, ATI

Anthony Di Stasio, Director of the Manufacturing, Capability Expansion, and Investment Prioritization Directorate (MCEIP), Office of the Under Secretary of Defense for Acquisition & Sustainment (OUSD A&S)

<u>Lisa Sanders</u>, Director of Science and Technology, Special Operations Forces, U.S. Special Operations Command <u>David Mussington</u>, Executive Assistant Director, Cybersecurity and Infrastructure Security Agency

SBIR/STTR Keynote - Accelerating Innovation through America's Seed Fund

<u>Erick Page-Littleford</u>, Acting Director and Program Manager, Office of Innovation and Investment, U.S. Small Business Administration

Jennifer Thabet, Program Director, Small Business Programs Office, DARPA

Matthew Willis, Director, Office of Army Prize Competitions & Army Applied SBIR Program, U.S. Army

Ben Schrag, SBIR/STTR Program Director and Policy Liaison, Directorate for Technology, Innovation and Partnerships, NSF

10:30 AM - 12:00 PM

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Resilience Week: Understanding the Climate, Cyber, and Physical Threat & Vulnerability for Infrastructure Systems

Our critical infrastructure systems are becoming more complex and, in many cases, more essential for meeting our basic needs. With this comes the potential for growing vulnerabilities due to both the evolving nature of threats and our increased dependence on these systems. In this session, we highlight some of these evolving threats related to climate change (and climate-induced extreme weather), cyber threats, and the roles that humans can play in compounding or mitigating such threats.

Andrea Staid, Senior Technical Leader, Energy Systems and Climate Analysis Group, Electric Power Research Institute

Laura Fischer, Senior Technical Leader, Electric Power Research Institute

Corey Fallon, Cognitive Scientist, Pacific Northwest National Laboratory

Sohom Datta, Senior Power Systems Research Engineer, Electricity Infrastructure and Buildings Division, Pacific Northwest **National Laboratory**

David Wells, Senior Technical Communications Program Manager, DOE Office of Electricity

Alexis Kwasinski, Associate Professor, University of Pittsburgh

10:30 AM - 12:00 PM

Baltimore 4



Resilience Week: Community Benefits Plans and Metrics: Energy Improvements in Rural and Remote Areas

The Department of Energy Energy Improvements in Rural and Remote Areas (ERA) program is a new program in the Bipartisan Infrastructure Law (BIL) that provides funding for infrastructure projects that improve energy efficiency, resilience, and affordability in rural and remote communities. Applications are competitive and require strong Community Benefits Plans (CBPs) in order to win funding. Topics in this session include lessons learned from 2023 ERA applicants, a discussion of how to capture energy and environmental equity and justice metrics in applications, and Technical assistance and resources available for helping future ERA applicants to create meaningful and actionable CBPs.

Abraham Ellis, Senior Manager, Renewable Energy and Industrial Decarbonization, Sandia National Laboratories

Lauren Khair, Director, National Rural Electric Cooperative

Nathan Wiltse, Economist and Researcher, National Renewable Energy Laboratory

Andrea Mammoli, Principal Member of Technical Staff, Sandia National Laboratories

Jill Capotosto, Energy Justice Liaison, Department of Energy, DOE Office of Clean Energy Demonstrations

12:00 PM - 1:30 PM



Defense TechConnect and Resilience Week Lunch (on own)

Christina Barnhill, Associate Director, SBIR/STTR Program, OUSD (R&E), U.S. Department of Defense

1:30 PM - 2:30 PM

Baltimore 3



Resilience Week: Training and Exercises to Strengthen Infrastructure Resilience

Preparation through training and exercises are the lifeblood of infrastructure resilience. By regularly training and performing exercises, we can identify and mitigate risks, improve coordination and communication, and test our response plans. This gives us the best chance of weathering any threat, natural or man-made. This session will explore: training using virtual and augmented realities, at scale training and exercises, resources available to help, and bridging response efforts between local and regional response units.

Jon Monken, Principal, Converge Strategies

Kolton Heaps, Digital Twin Visualization Scientist, Idaho National Laboratory

Jared Cantrell, Research Engineer, Idaho State University

Brock Long, Executive Chairman, Hagerty Consulting

1:30 PM - 2:30 PM

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Resilience Week: Nuclear Infrastructure Siting: Tribal Perspectives

The siting of nuclear infrastructure, such as power plants and waste disposal sites, has a significant impact on the communities in which it is located. This session will explore the perspectives of tribal nations on nuclear infrastructure siting. It will discuss the historical and cultural factors that influence tribal views on nuclear energy, as well as the specific concerns that tribal nations have about the siting of nuclear facilities.

Dawn Davis, Water & Power Systems Postdoctoral Research Associate and as the Environmental Justice Specialist, Idaho **National Laboratory**

Danielle Redhouse, Nuclear Engineer, Sandia National Laboratories

Tansey Moore, Policy Specialist, National Conference of State Legislatures

Ron Johnson, Tribal Council Elected Member, Nuclear Energy Tribal Working Group

Sherry Stout, Laboratory Program Manager, National Renewable Energy Laboratory

DTC and Resilience Week Break

2:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

Expo Hall Opens

3:00 PM - 4:00 PM

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Resilience Week: Policy-Driven Resilience Enhancements of Critical Electric Infrastructure

This session is focused on federal, state, and local policymakers' role in guiding resilience enhancements of critical electric infrastructure. Policymakers play an essential role in understanding the threat landscape and encouraging utilities and government facilities to develop strategies and goals, weigh investment options, and prioritize resilience cost-effectively and equitably. Many decision-makers do not understand where to start, what process to follow, or how to build a business case for action. This session will discuss the latest research on resilience enhancements of critical electric infrastructure and best practices for implementing and valuing these enhancements. The session will also allow participants to learn about the tools and resources available to help them assess and address the risks to critical electric infrastructure from climate change and other hazards.

Juliet Homer, Chief Systems Engineer, Pacific Northwest National Laboratory

Max Beller, Climate Adaption Advisor, San Diego Gas & Electric

Ethan Epstein, Resilience Program Manager, Federal Energy Management Program

Crystall Merlino, Director for Resilience, Energy, and Sustainability Management, Department of Homeland Security

3:00 PM - 4:00 PM

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Resilience Week: Building Equity and Justice into Resilience Planning

Resilience planning is the process of developing strategies to prepare for, respond to, and recover from disasters. Historically marginalized and disadvantaged communities often receive the least investment in resilience planning efforts. With historic investments in resilience planning for these communities from the Bipartisan Infrastructure Law and other federal funding priorities, it is vital that communities and their advisors are able to hold equity and justice as first principles in resilience planning in order to secure real dollars for infrastructure investment. Topics this session will cover include: R&D challenges around quantifying equitable resilience outcomes, how to include principles like equity in resilience planning efforts, and a discussion of sourcing the definition of resilience directly from communities (i.e., effective community engagement).

Samantha Ruiz, Chief of Staff, Department of Energy, Office of Economic Impact and Diversity

Eliza Hotchkiss, Senior Resilience Analyst, National Renewable Energy Laboratory

Brian McAdoo, Disaster Researcher and Head of the PlanetLab, Duke University

Dayne Broderson, Computer and Information Research Scientist and Program Manager, Alaska Center for Energy and Power Isa Ferrall-Wolf, Research, National Renewable Energy Laboratory

Tiffani Lawson, Resiliency Program Manager, Groundswell

4:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

Defense Innovation, SBIR/STTR Pavilion, ATI Consortia, Resilience Week, DARPA Disruptors, and Smart Cities Expo & Reception

4:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

SBIR/STTR Pavilion Agency Meet and Greet, Expo Hall

4:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

Defense Innovation Poster Session and Reception, Expo Hall

4:00 PM - 5:30 PM

Prince George's Exhibit Hall AB

Corporate and Consortia Speed Dating

No appointment needed! Meet more than 20 F1000 and ATI Consortia to learn about funding, membership and partnership opportunities in this fast-paced, speed dating format (5 minute meetings).



Registration

8:30 AM - 10:00 AM

Woodrow Wilson Ballroom A

TechConnect Innovation Keynotes: DOD and Industry Leadership

<u>Jennifer Rocha</u>, Vice President, Strategic Partnerships, TechConnect Division, ATI

Mike Stebbins, Vice President of the Medical & Threat Countermeasures Division, ATI

Landon Mertz, CEO and Board Member, Cerion Nanomaterials

Brad Chedister, Chief Technology and Innovation Officer, DEFENSEWERX

State of DOD Innovation and Capital: Fireside Chat. Since the first Defense TechConnect in 2013, there has been a historic surge in the number of support programs and vehicles for non-traditional innovators to address national security challenges. How has this nexus changed DoD innovation and capital landscape? What can we expect in the next ten years? This leadership keynote panel will discuss their experiences, impact, and ideas on defense innovation today and in the future.

Moderator: <u>Jennifer Rocha</u>, Vice President, Strategic Partnerships, TechConnect Division, ATI

Joe Bryan, Principal, Muswell Orange

Mica Dolan, Chief Operating Officer, ATI

Brad Chedister, Chief Technology and Innovation Officer, DEFENSEWERX

Christina Barnhill, Associate Director, SBIR/STTR Program, OUSD (R&E), U.S. Department of Defense

ML Mackey, CEO, Beacon Interactive Systems

Colonel Wes Spurlock, Senior Advisor to the Director, Office of Strategic Capital, U.S. Department of Defense

10:00 AM - 10:30 AM

Woodrow Wilson Lobby

Coffee and Networking Break

Opening Remarks: <u>Mike Stebbins</u>, Vice President of the Medical & Threat Countermeasures Division, ATI <u>Mike Stebbins</u>, Vice President of the Medical & Threat Countermeasures Division, ATI

10:30 AM - 12:00 PM

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Resilience Week: Operationalizing Resilience Frameworks: Watershed Resilience for Low-Capacity Communities

Part 1. The White House Subcommittee on Resilience Science and Technology (SRST) has developed a Grand Pathways Framework for community resilience capacity building. USACE is building a watershed resilience framework that draws from previous efforts and prioritizes application in low-capacity communities. This session will define watershed resilience from a systems perspective and discuss potential applications for building community resilience. Part 2. All-hazard disruptions and cascading effects on interdependent critical infrastructure in a region can have a significant impact on jurisdictions and US Army Corps of Engineers (USACE) projects in the impacted region. The Disaster Resilience 3.0 Pilot (DSR3P) is a pilot project that was initiated in January 2023 to develop replicable processes that can be used by USACE, universities, non-profits, and jurisdictions to identify regional critical infrastructure vulnerabilities and potential disruptions. The project is also working to assist jurisdictions to understand and self-identify vulnerabilities to critical infrastructure and inform the community on resilience.

Igor Linkov, Risk and Decision Science Focus Area Lead, U.S. Army Corps of Engineers

Michael Deegan, Policy Analyst, U.S. Army Corps of Engineers

Frank Randon, Disaster Program Manager, U.S. Army Corps of Engineers

David Alexander, Senior Science Advisor, Department of Homeland Security Science and Technology

Roger Pulwarty, Senior Scientist, National Oceanic and Atmospheric Administration

10:30 AM - 12:00 PM

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Resilience Week: National Level Unity of Effort: Protecting the Heart of our Critical Infrastructure

Part 1. John Garstka, a member of the Senior Executive Service (SES), is the Director for Cyber Warfare within the Office of the Deputy Assistant Secretary of Defense for Platform and Weapons Portfolio Management, Office of the Under Secretary of Defense for Acquisition and Sustainment will kick the session off with a discussion about Cyber as a Warfighting Domain and protecting our DoD systems from cyber threats. Topics will include evaluating, improving, and enforcing a culture of cybersecurity warfighting and accountability for cybersecurity and cyberspace operations. Part 2. This session will explore the lessons learned from protecting our national security systems from cyber threats. Topics will include the latest cyber threats, the challenges of protecting national security systems, and the latest strategies for mitigating cyber risks.

Part I

<u>John Garstka</u>, Director of Cyber, Office of the Under Secretary of Defense for Acquisition & Sustainment OUSD(A&S) Part II

Aleksandra Scalco, Engineer, Naval Information Warfare Center

Joshua Reiter, Deputy Principal Cyber Advisor (PCA), Principal Cyber Advisor, Department of the Navy

Michael Sulmeyer, Principal Cyber Advisor, Principal Cyber Advisor, Secretary of the Army and the Army Chief of Staff

Wanda Jones-Heath, Principal Cyber Advisor, Principal Cyber Advisor, Department of the Air Force

Michael Dransfield, Subject Matter Expert, National Security Agency



Resilience Week Lunch (on own)

1:30 PM - 2:30 PM

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Resilience Week: Calling All Engineers: Gov't and Private Sector Need Your **Skills to Harden Critical Infrastructure Assets**

Executive Order 14008 directed all Federal agencies and departments to conduct physical climate risk vulnerability assessments on their key assets. Similarly, FERC has ordered NERC to engage investor-owned electric utilities in evaluating the preparedness of their electricity assets, and the SEC is laying the groundwork that will require similar reporting from all publicly traded companies in the United States. Once the risks are illuminated, every type of organization will look to engineering companies to swing into action. Engineering, procurement and construction companies, otherwise known as EPCs, and other engineering and construction firms, are on the front lines of the climate resilience battle. They know better than anyone the impacts climate change-induced stressors are putting on their clients' assets, and because of that, are best positioned to recommend and often implement candidate resilience and adaptation options. This session will introduce critical infrastructure mini-case studies from the US Department of Energy as well as private sector and reveal the role of engineering in providing practical solutions to some incredibly daunting challenges, vulnerabilities and potential disruptions.

Andy Bochman, Senior Grid Strategist, Idaho National Laboratory David Parsons, Program Manager, DOE Grid Deployment Office Lisa Fewins, Corporate Sustainability Director, HDR Justin Welch, Systems Engineer, Idaho National Laboratory

1:30 PM - 2:30 PM

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Resilience Week: Architectures Architectures Architectures: Paths to Better **Security and Resilience**

This session will discuss four different architecture efforts to improve ICS/OT security and resilience, supported by industry and the federal government. The goal is to highlight what these architectures do (and don't do) to accelerate improvements in the security and resilience of critical infrastructure and to understand how these architectures are evolving and are being applied to ICS/OT-intense critical systems.

Greg Shannon, Chief Cybersecurity Scientist, Idaho National Laboratory Gabriela Ciocarlie, Associate Professor, University of Texas at San Antonio Les Call, Zero Trust PfMO Deputy Director, DoD CIO Zero Trust PfMO Art Bornschein, Architecture & Engineering DCIO, Cybersecurity, DoD

2:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

Expo Hall Opens

3:00 PM - 4:00 PM

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Resilience Week: Lighting Talks: Understanding Critical Infrastructure Systems and Interdependencies

Are you interested in learning more about critical infrastructure systems and interdependencies? Do you want to hear from experts in the field? Do you want to network with other professionals? If so, then you should attend the Understanding Critical Infrastructure Systems and Interdependencies - Lighting Talks! This event will feature short presentations by experts on a variety of topics related to critical infrastructure systems and their interdependencies. You will learn about the different types of critical infrastructure, the threats they face, and the strategies for protecting them. You will also have the opportunity to network with other professionals who are interested in critical infrastructure. This is a great opportunity to learn from others, share your own ideas, and build relationships.

Ryan Donaghy, Associate Director for Planning and Innovation, Cybersecurity and Infrastructure Security Agency Tianqiao Zhao, Renewable Energy Group, Interdisciplinary Science Department, Brookhaven National Laboratory Judy Esquibel, Senior Cyber Advisor, US Army Cyber Command

Madison Haley, Graduate Research Assistant, Center on Financial Risk in Environmental Systems, UNC Chapel Hill Marissa Brown, Management and Program Analyst, Cybersecurity and Infrastructure Security Agency

3:00 PM - 4:00 PM

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Resilience Week: RISE Consortium: Catalyzing Climate Resilience with the **DoD Community**

Join RISE Executive Director, Michael Wu, for a moderated panel discussion with senior leaders from the Department of Defense who are responsible for designing and implementing climate resilience policy across the Services. Attendees will hear first-hand from DoD climate and energy leaders about the latest energy and climate resilience initiatives, as well as opportunities for collaboration.

Michael Wu, Executive Director, Converge Strategies Eric Griesenbrock, Lead, Energy Office, Air Force Research Laboratory Deborah Loomis, Senior Advisor for Climate Change to the Secretary of the Navy, Office of the Assistant Secretary of the Navy (Energy, Installations and Environment) Will Rogers, Senior Climate Advisor, US Army

4:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

Defense Innovation, SBIR/STTR Pavilion, ATI Consortia, Resilience Week, **DARPA Disruptors, and Smart Cities Expo & Reception**

4:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

SBIR/STTR Pavilion Agency Meet and Greet, Expo Hall

4:00 PM - 6:00 PM

Prince George's Exhibit Hall AB

Resilience Week Networking Reception and Poster Sessions, Expo Hall

THURSDAY NOVEMBER 30, 2023

8:30 AM - 9:30 AM

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Resilience Week: Innovative Distributed Energy Resources Applications for **Extreme Weather Events**

Extreme weather events are increasing in frequency and severity, resulting in outsized impacts on the electric grid. Distributed energy resources (DERs) are a critical tool for strengthening energy resilience in this volatile operating environment due to their flexibility and wide-ranging applications. This session will explore how innovative DER technologies are being deployed to improve disaster response capabilities and decrease outage time during extreme weather events. Attendees will hear from both DER technology solution providers and community end-users responsible for implementing these innovative tools.

Marissa Morales-Rodriguez, Systems Integration Technology Manager, DOE Solar Energy Technology Office Hannah Burroughs, Secure Renewables and Storage Integration Area Lead, Lawrence Livermore National Laboratory C.P. Smith, Executive Director, Cooperativa Hidroeléctrica de la Montaña Joe Zhou, Director of Research and Innovation, Slipstream

8:30 AM - 9:30 AM

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Resilience Week: Cyber Resilience for Operational Technology: A Pitch Event

This pitch event will showcase the latest innovations in cyber resilience for operational technology (OT). OT systems are critical to the operation of our nation's critical infrastructure, and they are increasingly under attack from cyber adversaries. This event will provide a platform for researchers, practitioners, and policymakers to share their ideas on how to improve the cyber resilience of OT systems. The event will consist of a series of short pitches (5-7 minutes each) followed by a Q&A session. The pitches will be judged by a panel of experts, and the winner will be announced at the end of the event. The winner will be published in a peer-reviewed journal, The Journal of Critical Infrastructure Policy. Judges: Benjamin Blakely -Argonne National Laboratory, Nate Evans - Oak Ridge National Laboratory, Vivek Singh - National Renewable Energy Laboratory, Aleksandra Scalco -Naval Information Warfare Center

Benjamin Blakely, Cybersecurity and Artificial Intelligence Researcher, Argonne National Laboratory

Alex Brickner, Director of SBIR Programs, UMass Lowell

Tami Reynolds, Group Manager, National Renewable Laboratory

Cecilia Klauber, Power Systems Engineer, Lawrence Livermore National Laboratory

Victor Cobilean, Research Assistant, Virginia Commonwealth University

9:45 AM - 10:45 AM

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Resilience Week: Strategies for Distributed Energy Resources Operations and **Grid Integration**

Distributed Energy Resources (DERs) are most effective when their operations are fully optimized and integrated with the electric grid. This session will review strategies for operating DERs that maximize their resilience potential by integrating them with the electric grid. Attendees will learn about specific strategies for DER operation and integration, including DER dispatch control and protection.

Elaine Ulrich, Senior Advisor for the Preparedness, Policy and Risk Analysis, DOE Cybersecurity, Energy Security, and Emergency Response

Megan Culler, Power Engineer, Idaho National Laboratory

David Terry, President, National Association of State Energy Officials

Ulrich Muenz, Principal Key Expert Advanced Control and Optimization, Siemens Technology

Neal Simmons, President & CEO, Eagle Creek Renewable Energy



Department of Entrepreneurs: How DOE Is Investing to Make the United States a Clean Energy Superpower

Turning a great idea into a thriving business is hard, especially in the competitive and dynamic cleantech sector. Gaining access to capital, hiring and retaining talent, and building business systems and processes are just a few of the innumerable challenges facing entrepreneurs. Luckily, there's a network of incubators and accelerators dedicated to advancing clean and sustainable technologies on their paths to market. Learn from experts, leaders, and entrepreneurs who are making a difference in the clean energy transformation and how you can plug in.

Michael Wu, CEO, Converge Strategies

Christian Vandervort, Technology-to-Market Advisor, Department of Energy, ARPA-E Jatin Khanna, Outreach and Business Development, Department of Energy, Loan Programs Office Chris Saldana, Director, Department of Energy, Advanced Manufacturing Office

11:00 AM - 12:00 PM

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Resilience Week: Scaling Vehicle-to-Grid Technology: Use Cases for **Community Resilience**

In this panel discussion, WRI, BGE, and Highland will dive further into how electric school buses (ESBs) fleets can help to stabilize utilities' grids in both the summer and winter, as well as illustrate the complexities of depot electrification and the required coordination needed to keep the grids balanced. Together, Sue Gander, WRI Director of Electric School Bus Initiative, Sam duPont, BGE Principal Business Program Manager of Transportation Electrification and Amy McGuire, Highland Director of Market Development will explain why ESBs are an ideal resource for community resilience amid a volatile climate and will share key results that underscore ESBs' efficacy as grid resources, as well as their potential to scale vehicle-to-grid (V2G), vehicle-tocommunity (V2C), and vehicle-to-everything (V2X) opportunities in the future.

Emma Stewart, Chief Power Grid Scientist and Research Strategist, Idaho National Laboratory Amy McGuire, Director of Market Development, Highland Electric Fleets Sue Gander, Director of Electric School Bus Initiative, World Resources Institue

Sam DuPont, Principal Business Program Manager, Transportation Electrification, Baltimore Gas & Electric

11:00 AM - 12:00 PM

Baltimore 4



Resilience Week: From Lab to Launch: National Laboratories and **Commercializing R&D**

National Laboratories are playing an increasingly important role in the commercialization of new energy technologies, with world class facilities and expertise. Technologies coming from the National Laboratories have proven fundamental to the clean energy transition, and National Laboratories are collaborating with private sector innovators like never before. Learn how you can get involved from laboratory leaders and private sector partners.

Michael Wu, CEO, Converge Strategies

Jon Cook, Senior Commercialization Manager, Idaho National Laboratory

Kate Moore, Head of Strategic Partnerships, Innovation & Entrepreneurship Center, National Renewable Energy Laboratory Dan Miller, Director, Innovation Crossroads, Oak Ridge National Laboratory

12:00 PM



End of Conference